

### **REMARKS**

In response to the Office Action mailed 7 June 2007, the Applicants respectfully request the Examiner to reconsider the above-captioned application in view of the following comments.

Claims 19-26 and 28-35 were previously pending in this application. The Examiner has rejected all of these claims.

### **Response to Rejection of Claims under 35 U.S.C. §102**

The Examiner has rejected independent Claims 19 and 28, as well as Claims 21-26 and 30-35 which depend from Claims 19 and 28, as being anticipated by U.S. Patent Number 3,735,593 to Howell (hereinafter "Howell"). The Applicants disagree with this rejection, as will be discussed below, because all elements of the pending claims are not taught by Howell.

In particular, the Applicants note that the Examiner has stated that Figure 1 of Howell shows a slot in the first end of the fluid duct located upstream of the fan rotor 1. However, the Examiner has reversed the upstream and downstream directions identified in Howell. Specifically, the Examiner has taken Figure 1 of Howell and labeled the left-hand side of the figure as "downstream of fan rotor 1", and the right-hand side as "upstream of fan rotor 1". However, Howell specifies at column 2, lines 7-11: "Downstream, relative to the direction of normal flow through the duct as indicated by the arrow A, of the row of fan rotor blades 1, ... is a row of hollow stator blades such as that shown at 11."

This statement by Howell indicates that the direction of flow through the duct is indicated by the arrow A, which can be seen to point from left to right in Figure 1 of Howell. If the flow is from left to right, then the downstream side is the *right-hand* side, not the left-hand side as the Examiner has labeled it.

Furthermore, the quotation above indicates that "Downstream ... of the row of fan rotor blades 1 ... is a row of hollow stator blades ... 11." Figure 1 clearly shows reference numeral 1 pointing to a blade row on the left side of the Figure, while reference

11 points to a blade row on the right side of the Figure. This also demonstrates that the downstream direction from the fan blade 1 to the stator blade 11 is *to the right* on Figure 1.

Because Claims 19 and 28 both require a slot in the first end of the duct being disposed upstream of the fan rotor, these claims are not anticipated as the Examiner suggests. The Examiner has placed a label shown “slot in first end of fluid duct upstream of the fan rotor 1”, and used it to identify a slot that is disposed to the *right* of the fan rotor 1 on Figure 1. As noted above, being disposed to the right of the fan blade places this slot in a *downstream* direction from the fan rotor, not an upstream direction.

Furthermore, the other end of the duct 13 illustrated in Howell, which the Examiner has labeled as “slot in second end of the fluid duct aft of the fan rotor 1”, is also not disposed upstream of the fan rotor. As discussed above, the only portion of Figure 1 of Howell that is upstream of the fan rotor is that portion to the left of the upstream (left) edge of fan rotor 1. Both of the identified slots in Howell are located outside of this upstream region.

Therefore, even with the labeling of the slots reversed to account for the actual direction of flow through the system illustrated in Howell, the element of a slot with an end disposed upstream of the fan rotor is not shown in Figure 1. This is made especially clear by the statement in Howell at column 1, lines 41-43: “Air may also be drawn from orifices adjacent the trailing edges of the blades to reduce trailing edge vortices.” Air drawn from the an opening adjacent the *trailing* edges of the blades (which are by definition the *downstream* side of the blades) is not being drawn from upstream of the blades themselves.

In addition to this argument, the Examiner suggests that Howell demonstrates a system that increases the speed of the flow adjacent to the inlet fan duct outer wall. Specifically, the Examiner states that as the flow enters the second end of the fluid duct 13, the speed of the flow is accelerated because the second end of the duct 13 has a very small cross sectional area in comparison to the large cross-sectional area of the inlet fan duct of the engine (see Office Action of 7 June 2007, page 3, last sentence).

The Examiner's contention that the flow must accelerate because the cross section of the fluid duct 13 end is small in comparison to the large area of the inlet fan duct is only true *if the entire flow through the inlet fan duct must pass through the fluid duct 13*. This is not the case. In fact, only a tiny portion of the flow through the fan duct would be expected to flow through the illustrated duct 13. The majority of the flow will pass over the fan rotor blades 1 and through the interior of the nacelle and over stator blades 11, and then out of the engine without passing through duct 13. Therefore, the illustrated geometry does not produce the increase in speed that the Examiner suggests.

Because the entirety of the flow does not pass through the duct 13 of Howell, nor is the speed of the flow through duct 13 the same as the speed of the flow along the surface of the inlet fan duct adjacent the outer inlet fan duct wall, the recited element of increasing air velocity adjacent to the inlet fan duct outer wall is not shown by Howell.

Because at least these two claim elements of independent Claims 19 and 28 are not taught by Howell, the Applicants submit that the rejection maintained by the Examiner under 35 U.S.C. §102 is not properly applicable to the pending claims. The Applicants therefore respectfully request that the Examiner withdraw this rejection and pass independent Claims 19 and 28, as well as those claims that depend from 19 and 28, to allowance.

#### **Response to Rejection under §103 in view of Howell**

The Examiner has rejected Claims 20 and 29 as being unpatentable over Howell under 35 U.S.C. §103(a). Claims 20 and 29 depend from independent claims 19 and 28, respectively. As discussed above, these independent claims recite elements not found in or suggested by Howell. Therefore Claims 20 and 29, which include all of the limitations of their respective independent claims, recite elements not found in Howell. The Applicants therefore submit that Claims 20 and 29 are patentable over Howell on the basis of the patentability of the independent claims from which they depend.

**Conclusion**

In light of the discussion above, the Applicants request that the Examiner reconsider the rejection of currently pending Claims 19-26 and 28-35 and pass these Claims to allowance. If any issues remain unresolved, particularly issues related to the Applicants, the Examiner is invited to telephone the Applicant's counsel at the number provided below so that a resolution can be most effectively reached.

Respectfully submitted,

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